

**■ Features**

- SMD package with industry standard pinout
- 2:1 wide input range
- Operating temperature range -40 ~ +90°C
- Comply to BS EN/EN55032 radiated Class A without additional components
- Protection: Short circuit(continuous)/Over load
- 1.5KVDC I/O isolation
- Optional reel packing
- 3 years warranty

**■ Applications**

- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

**■ GTIN CODE**

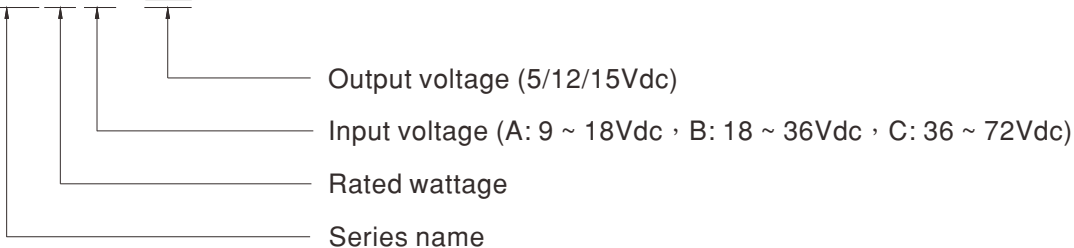
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

**■ Description**

SMT01 series is 1W isolated and regulated module type DC-DC converter with SMD package. It features international standard pins, wide working temperature range -40~+90°C, 1.5KVDC I/P-O/P isolation voltage, compliance to BS EN/EN55032 radiated Class A without additional components, short circuit protection, etc. The models account for different input voltage 9~18V, 18~36V and 36~72V 2:1 wide input range, and various output voltage, 5V/12V/15V for single output which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

**■ Model Encoding**

SMT01 **A** - **12**



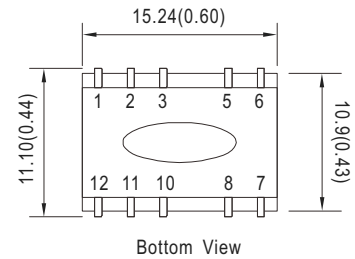
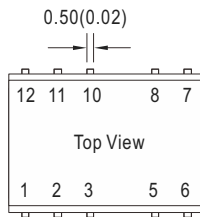
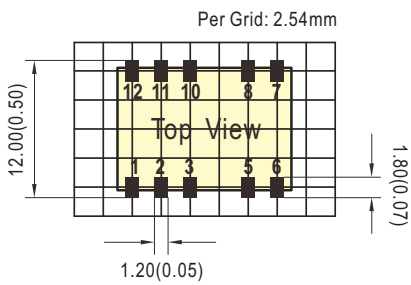
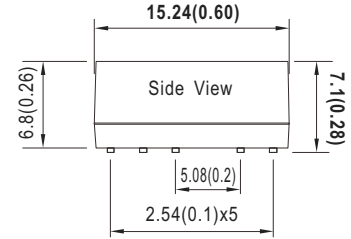
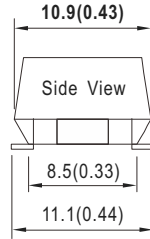
**MODEL SELECTION TABLE**

| ORDER NO. | INPUT                 |               |           | OUTPUT         |                | EFFICIENCY (TYP.) | CAPACITOR LOAD (MAX.) |
|-----------|-----------------------|---------------|-----------|----------------|----------------|-------------------|-----------------------|
|           | INPUT VOLTAGE (RANGE) | INPUT CURRENT |           | OUTPUT VOLTAGE | OUTPUT CURRENT |                   |                       |
|           |                       | NO LOAD       | FULL LOAD |                |                |                   |                       |
| SMT01A-05 | Normal 12V (9 ~ 18V)  | 10mA          | 111mA     | 5V             | 20 ~ 200mA     | 75%               | 1500 $\mu$ F          |
| SMT01A-12 |                       | 15mA          | 111mA     | 12V            | 8.3 ~ 83mA     | 75%               | 470 $\mu$ F           |
| SMT01A-15 |                       | 15mA          | 111mA     | 15V            | 6.7 ~ 67mA     | 75%               | 470 $\mu$ F           |
| SMT01B-05 | Normal 24V (18 ~ 36V) | 10mA          | 56mA      | 5V             | 20 ~ 200mA     | 75%               | 1500 $\mu$ F          |
| SMT01B-12 |                       | 12mA          | 56mA      | 12V            | 8.3 ~ 83mA     | 75%               | 470 $\mu$ F           |
| SMT01B-15 |                       | 13mA          | 56mA      | 15V            | 6.7 ~ 67mA     | 75%               | 470 $\mu$ F           |
| SMT01C-05 | Normal 48V (36 ~ 72V) | 5mA           | 28mA      | 5V             | 20 ~ 200mA     | 75%               | 1500 $\mu$ F          |
| SMT01C-12 |                       | 5mA           | 28mA      | 12V            | 8.3 ~ 83mA     | 75%               | 470 $\mu$ F           |
| SMT01C-15 |                       | 6mA           | 28mA      | 15V            | 6.7 ~ 67mA     | 75%               | 470 $\mu$ F           |

| SPECIFICATION                              |  |   |                        |  |
|--|--|---|------------------------|--|
| INPUT                                      | VOLTAGE RANGE  | A: 9 ~ 18Vdc<br>B: 18 ~ 36Vdc<br>C: 36 ~ 72Vdc  |                        |  |
|  | FILTER   | Internal capacitor  |                        |  |
|  | PROTECTION   | Fuse recommended.<br>12Vin models: 300mA Slow-Blow Type<br>24Vin models: 150mA Slow-Blow Type<br>48Vin models: 100mA Slow-Blow Type |                        |  |
|  | INTERNAL POWER DISSIPATION   | 500mW   |                        |  |
| OUTPUT                                     | VOLTAGE ACCURACY   | ±2.0%   |                        |  |
|  | RATED POWER  | 1W  |                        |  |
|  | RIPPLE & NOISE <small>Note.2</small>   | 100mVp-p  |                        |  |
|  | LINE REGULATION <small>Note.3</small>  | ±0.5%   |                        |  |
|  | LOAD REGULATION <small>Note.4</small>  | ±0.5%   |                        |  |
|  | SWITCHING FREQUENCY (Typ.)   | 500KHz  |                        |  |
| PROTECTION                                 | OVERLOAD   | 130 ~ 200% rated output power<br>Protection type : Recovers automatically after fault condition is removed                          |                        |  |
|  | SHORT CIRCUIT  | Protection type: Continuous, automatic recovery   |                        |  |
| ENVIRONMENT                                | COOLING  | Free-air convection   |                        |  |
|  | WORKING TEMP.  | Standard model: -40 ~ +90°C (Refer to "Derating Curve")   |                        |  |
|  | CASE TEMPERATURE   | +110°C max.   |                        |  |
|  | WORKING HUMIDITY   | 20% ~ 90% RH non-condensing   |                        |  |
|  | STORAGE TEMP., HUMIDITY  | -55 ~ +125°C, 10 ~ 95% RH non-condensing  |                        |  |
|  | TEMP. COEFFICIENT  | 0.03% / °C (0 ~ 85°C)   |                        |  |
|  | SOLDERING TEMPERATURE  | 1.5mm from case of 1 ~ 10sec./240°C max.  |                        |  |
|  | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes   |                        |  |
| SAFETY & EMC<br><small>( Note.5,6)</small> | SAFETY STANDARDS   | EAC TP TC 020/2011 approved   |                        |  |
|  | WITHSTAND VOLTAGE  | I/P-O/P:1.5KVDC   |                        |  |
|  | ISOLATION RESISTANCE   | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH  |                        |  |
|  | ISOLATION CAPACITANCE (Typ.)   | 80pF  |                        |  |
|  | EMC EMISSION   | Parameter   | Standard               | Test Level / Note( Note.6)                       |
|  |  | Conducted   | BS EN/EN55032(CISPR32) | N/A  |
|  | EMC IMMUNITY   | Radiated  | BS EN/EN55032(CISPR32) | Class A  |
|  |  | Parameter   | Standard               | Test Level / Note                                |
|  |  | ESD   | BS EN/EN61000-4-2      | Level 3, ±8KV air, Level 2, ±4KV contact         |
|  |  | Radiated Susceptibility   | BS EN/EN61000-4-3      | Level 2, 3V/m                                    |
|  |  | EFT/Burest  | BS EN/EN61000-4-4      | Level 1, 0.5KV at power, Level 2, 0.5KV at signa |
|  |  | Surge   | BS EN/EN61000-4-5      | Level 2, 0.5KV Line-Line, Level 2, 1KV Line-gro  |
|  |  | Conducted   | BS EN/EN61000-4-6      | Level 2, 3V(e.m.f)                               |
| Magnetic Field                             | BS EN/EN61000-4-8  | Level 1, 1A/m   |                        |  |
| OTHERS                                     | MTBF   | 630Khrs min. MIL-HDBK-217F(25°C)  |                        |  |
|  | DIMENSION (L*W*H)  | 15.24*10.9*7.1mm (0.6*0.43*0.28 inch)   |                        |  |
|  | CASE MATERIAL  | Non-Conductive black plastic (UL 94V-0 rated)   |                        |  |
|  | PACKING  | 1.4g  |                        |  |
| NOTE                                       | <p>1.All parameters are specified at normal input(A:12Vdc, B:24Vdc, C:48Vdc), rated load, 25°C 70% RH ambient.<br/>                 2.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.<br/>                 3.Line regulation is measured from low line to high line at rated load.<br/>                 4.Load regulation is measured from 10% to 100% rated load.<br/>                 5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)<br/>                 6.An external input filter capacitor is required if the module has to meet BS EN/EN61000-4-4, BS EN/EN61000-4-5.<br/>                 The filter capacitor Power Mate suggest: 470µF/100V.</p> |   |                        |  |

**Mechanical Specification**

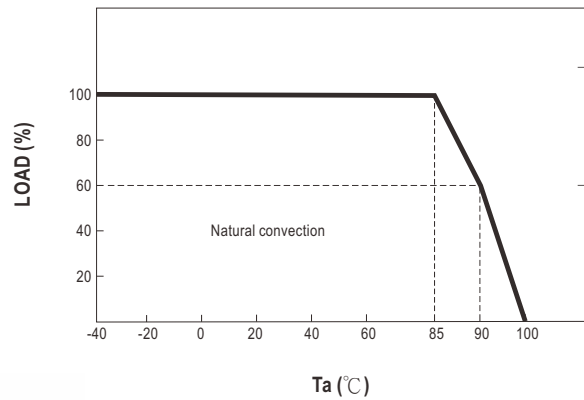
- All dimensions in mm(inch)
- Tolerance:  $x.x \pm 0.5\text{mm}$  ( $x.xx \pm 0.02"$ )  
 $x.xx \pm 0.25\text{mm}$  ( $x.xxx \pm 0.01"$ )
- Pin size is  $0.50 \times 0.30\text{mm}$  ( $0.02" \times 0.01"$ )
- Pin is Tolerance:  $x.xx \pm 0.07\text{mm}$  ( $x.xxx \pm 0.003"$ )



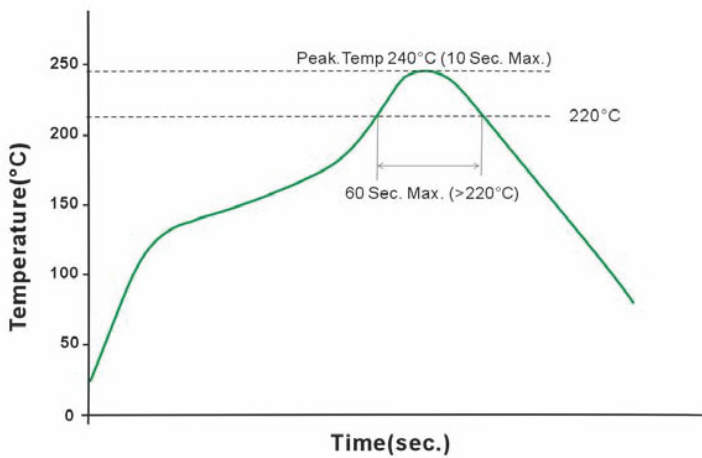
**Pin Configuration**

| Pin No.       | Pin-Out |
|---------------|---------|
| 1             | -Vin    |
| 5             | -Vout   |
| 6             | +Vout   |
| 12            | +Vin    |
| 2,3,7,8,10,11 | N.C.    |

**Derating Curve**



**Reflow Soldering Curve**



Remark: The curve applies only to the hot air reflow soldering.

**Packing**

| Standard Tube Packing  | MPQ Per Tube (PCS) | One Tube G.W. | Max. Q'TY/ Carton(PCS) | One Carton G.W. |
|--|--------------------|---------------|------------------------|-----------------|
| <p>Unit : mm</p> <p>TUBE PATTERN</p> <p>CARTON<br/>L600 x W230 x H220</p>  | 32                 | 0.065Kg       | 3840                   | 8.6Kg           |
| Optional Reel Packing  | MPQ Per Reel (PCS) | One Box G.W.  | Max. Q'TY/ Carton(PCS) | One Carton G.W. |
| <p>Unit : mm</p> <p>Reel Width=32</p> <p>Reel Width=32</p> <p>W=32(+0.3/-0.1)<br/>Ao=11.4(±0.1)<br/>Bo=15.5(±0.1)<br/>Ko=7.4(±0.1)<br/>P1=16(±0.1)</p> <p>INNER BOX<br/>L355*W338*H50</p> <p>OUTER CARTON<br/>L375*W284*H370</p> | 500                | 1.4Kg         | 2500                   | 7.8Kg           |

**Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>